WHAT IS CLAIMED IS:

1. A memory cell comprising:

a semiconductor substrate having a first region and a second region of one conduction type and a third region therebetween of an opposite conduction type; and

a gate insulating layer formed over said substrate, the gate insulating layer having a first thickness formed over said first region and said second region, and a second thickness formed over said third region.

2. A memory cell as in claim 1, wherein said first thickness is greater than said second thickness.

3. A memory cell as in claim 1, wherein said first thickness is between about 20 and 30 nm and wherein said second thickness is between about 8 and 11 nm.

4. A memory cell as in claim 1, wherein the electric field in a region of overlap between said insulating layer and said first and said second regions is between about 4 Mv/cm and 6 Mv/cm.

5. A memory cell as in claim 1, wherein the electric field in a region of overlap between said insulating layer and said third region is between about 8 Mv/cm and 11 Mv/cm.

6. A memory cell as in claim 1, wherein said gate insulating layer comprises $SiO_2$.

7. A memory cell as in claim 1, further comprising a polysilicon gate electrode.

8. A memory cell as in claim 1, further comprising a control gate.

9. A memory cell as in claim 1, further comprising an ONO stack.

10. A method for fabricating a memory cell, the method comprising:

providing a semiconductor substrate having a first region and a second region of one conduction type and a third region therebetween of an opposite conduction type;

forming a first portion of a gate insulating layer over said first region and said second region; and

forming a second portion of said gate insulating layer over said third region,

said first portion having a first thickness said second portion having a second thickness.

11. A method as in claim 10, wherein said first thickness is greater than said second thickness.

12. A method as in claim 10, wherein said first thickness is between about 20 and 30 nm and wherein said second thickness is between about 8 and 11 nm.